

Mackenzie Dam and Mackenzie Reservoir

OWNER

Mackenzie Municipal Water Authority.

ENGINEER (Design)

Freese, Nichols and Endress.

LOCATION

On Tule Creek in Briscoe County, 9 miles northwest of Silverton. The reservoir extends into Swisher County.

DRAINAGE AREA

188 square miles.

DAM

Type	Earthfill
Length (including spillways)	3,280 ft
Maximum height	174 ft
Top width	20 ft + soil cement protection
Top elevation	3,126.0 ft above msl

SPILLWAY (emergency)

Location	Right end of the dam
Type	Cut in natural earth
Crest elevation	3,110.0 ft above msl
Crest length	800 ft
Control	None

SPILLWAY (service)

Location	Right abutment of the dam
Type	Concrete ogee, discharge chute and flip bucket
Crest elevation	3,100.0 ft above msl
Crest length	20 ft
Control	None

OUTLET WORKS

Type	Concrete pipe, 30-inch diameter to valve vault, then 18-inch diameter downstream
Invert elevation	2,961.0 ft above msl
Control	Slide gate, 30-inch circular in tower
Inlets to tower (2)	Elevation 3,080.0 and 3,020.0 ft above msl
Control	Slide gates, 3 by 3 ft
	All slide gates operated from top of the tower, elevation 3,110.0 ft above msl
Discharge	To valve vault with valve-controlled outlet pipes

STATE AUTHORIZATION

Permit No. 2297 (Application No. 2528), October 26, 1967, authorizes the construction of a dam to create a reservoir with a capacity of 46,450 acre-feet. Permittee is authorized to divert 4,000 acre-feet of water per annum for municipal purposes and 1,200 acre-feet per annum for industrial use.

RESERVOIR DATA

Capacity	47,151	acre-feet at elevation 3,100.0 ft above msl
Area	910.5	acres at elevation 3,100.0 ft above msl
Capacity	56,600	acre-feet at elevation 3,110.0 ft above msl
Area	1,144	acres at elevation 3,110.0 ft above msl

GENERAL

Construction started	September 1972
Deliberate impoundment scheduled	April 1974
Project completion scheduled	April 1974
General contractor	Gilvin & Terrill, Inc.
Estimated cost of the dam	\$2,636,390

